



NDN301A



## MCB 3P 10kA/15kA D-1A 3M

### Technical properties

#### Architecture

|                           |                 |
|---------------------------|-----------------|
| Neutral position          | without neutral |
| Number of protected poles | 3               |
| Number of poles           | 3 P             |
| Type of pole              | 3 P             |
| Curve                     | D               |

#### Functions

|                                  |    |
|----------------------------------|----|
| Concurrently switching N-neutral | No |
|----------------------------------|----|

#### Configuration

|                   |   |
|-------------------|---|
| Number of modules | 3 |
|-------------------|---|

#### Connectivity

|                                                 |                  |
|-------------------------------------------------|------------------|
| Top connection alignment for modular devices    | Aligned terminal |
| Bottom connection alignment for modular devices | Aligned terminal |

#### Main electrical features

|                                                                        |       |
|------------------------------------------------------------------------|-------|
| Rated short circuit breaking capacity $I_{cn}$ AC according IEC60898-1 | 10 kA |
| Rated operational voltage $U_e$                                        | 400 V |
| Type of supply voltage                                                 | AC    |

#### Voltage

|                                        |        |
|----------------------------------------|--------|
| Rated insulation voltage               | 500 V  |
| Rated impulse withstand voltage        | 6000 V |
| Minimum threshold voltage ( $U_e$ min) | 12 V   |

#### Electric current

|                                                                   |                   |
|-------------------------------------------------------------------|-------------------|
| Rated current                                                     | 1 A               |
| Rated service breaking capacity $I_{cs}$ AC according IEC 60898-1 | 7.5 kA            |
| min/maxi threshold value of the AC thermal operation              | 1.13 / 1.45 $I_n$ |
| Magnetic regulating current                                       | 10 / 14.4 $I_n$   |
| min/maxi threshold value of the DC magnetic operation             | 15 / 30 $I_n$     |
| min/maxi threshold value of the DC thermal operation              | 1.13 / 1.45 $I_n$ |
| Rating current -10°C according to IEC 60947                       | 1.63 A            |

|                                                                               |        |
|-------------------------------------------------------------------------------|--------|
| Rating current -15°C according to IEC 60947                                   | 1.67 A |
| Rating current -20°C according to IEC 60947                                   | 1.71 A |
| Rating current -25°C according to IEC 60947                                   | 1.75 A |
| Rating current -5°C according to IEC 60947                                    | 1.59 A |
| Rating current 0°C according to IEC 60947                                     | 1.54 A |
| Rating current 10°C according to IEC 60947                                    | 1.45 A |
| Rating current 15°C according to IEC 60947                                    | 1.4 A  |
| Rating current 20°C according to IEC 60947                                    | 1.35 A |
| Rating current 25°C according to IEC 60947                                    | 1.3 A  |
| Rating current 30°C according to IEC 60947                                    | 1.25 A |
| Rating current 35°C according to IEC 60947                                    | 1.19 A |
| Rating current 40°C according to IEC 60947                                    | 1.13 A |
| Rating current 45°C according to IEC 60947                                    | 1.07 A |
| Rating current 5°C according to IEC 60947                                     | 1.5 A  |
| Rating current 50°C according to IEC 60947                                    | 1 A    |
| Rating current 55°C according to IEC 60947                                    | 0.92 A |
| Rating current 60°C according to IEC 60947                                    | 0.83 A |
| Rating current 65°C according to IEC 60947                                    | 0.73 A |
| Rating current 70°C according to IEC 60947                                    | 0.61 A |
| Rated short circuit breaking capacity Icn under 230V AC according IEC60898-1  | 10 kA  |
| Rated short circuit breaking capacity Icn under 400V AC according IEC60898-1  | 10 kA  |
| Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2  | 30 kA  |
| Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2  | 30 kA  |
| Rated ultimate short-circuit breaking capacity Icu under 400V AC IEC 60947-2  | 15 kA  |
| Rated ultimate short-circuit breaking capacity Icu under 415V AC IEC 60947-2  | 15 kA  |
| Rated short circuit breaking capacity Icn under 240V AC according IEC 60898-1 | 10 kA  |
| Rated short circuit breaking capacity Icn under 415V AC according IEC 60898-1 | 10 kA  |
| Rated ultimate short-circuit breaking capacity Icu under 220V AC IEC 60947-2  | 30 kA  |
| Rated ultimate short-circuit breaking capacity Icu under 380V AC IEC 60947-2  | 15 kA  |
| <b>Electric current / temperature</b>                                         |        |
| Rating current -25°C                                                          | 1.41 A |
| Rating current -20°C                                                          | 1.37 A |
| Rating current -15°C                                                          | 1.34 A |
| Rating current -10°C                                                          | 1.31 A |
| Rating current -5°C                                                           | 1.27 A |
| Rating current 0°C                                                            | 1.24 A |
| Rating current 5°C                                                            | 1.2 A  |
| Rating current 10°C                                                           | 1.16 A |

|                     |        |
|---------------------|--------|
| Rating current 25°C | 1.04 A |
| Rating current 30°C | 1 A    |
| Rating current 35°C | 0.95 A |
| Rating current 40°C | 0.9 A  |
| Rating current 45°C | 0.84 A |
| Rating current 50°C | 0.78 A |
| Rating current 55°C | 0.72 A |
| Rating current 60°C | 0.65 A |
| Rating current 65°C | 0.57 A |
| Rating current 70°C | 0.48 A |

#### Current correction factors

|                                                                             |      |
|-----------------------------------------------------------------------------|------|
| Correction factor of rating current for 2 devices placed side-by-side       | 1    |
| Correction factor of rating current for 3 devices placed side-by-side       | 0.95 |
| Correction factor of rating current for 4 and 5 devices placed side-by-side | 0.9  |
| Correction factor of rating current for 6 devices placed side-by-side       | 0.85 |
| Correction factor of magnetic tripping with 100 Hz                          | 1.1  |
| Correction factor of magnetic tripping with 200 Hz                          | 1.2  |
| Correction factor of magnetic tripping with 400 Hz                          | 1.5  |
| Correction factor of magnetic tripping with 60 Hz                           | 1.1  |

#### Dimensions

|                             |         |
|-----------------------------|---------|
| Depth of installed product  | 70 mm   |
| Height of installed product | 83 mm   |
| Width of installed product  | 52.5 mm |

#### Frequency

|           |             |
|-----------|-------------|
| Frequency | 50 to 60 Hz |
|-----------|-------------|

#### Power

|                                                               |        |
|---------------------------------------------------------------|--------|
| Maximum power loss per pole according to the product standard | 3 W    |
| Total power loss under I <sub>N</sub>                         | 3.24 W |
| Power loss per pole at I <sub>N</sub>                         | 1.09 W |

#### Endurance

|                                        |       |
|----------------------------------------|-------|
| Electric endurance in number of cycles | 4000  |
| Number of mechanical operations        | 20000 |

#### Installation, mounting

|                                              |            |
|----------------------------------------------|------------|
| Type of top connection for modular devices   | with screw |
| Tightening torque                            | 2,8Nm      |
| Type of top rail clip for modular devices    | NA         |
| Type of bottom rail clip for modular devices | plastic    |

|                                                                              |                          |
|------------------------------------------------------------------------------|--------------------------|
| Type of Bottom Connection for modular devices                                | Blconnect                |
| Top removability for modular devices                                         | Yes                      |
| Bottom removability for modular devices                                      | Yes                      |
| Suitable for flush-mounting                                                  | Yes                      |
| <b>Connection</b>                                                            |                          |
| Connection cross-section at output with screw, for flexible conductor        | 1 / 25 mm <sup>2</sup>   |
| Connection cross-section at output with screw, for massive conductor         | 1 / 35 mm <sup>2</sup>   |
| Connection cross-section for rigid conductor, upstream terminals with screws | 1 / 35 mm <sup>2</sup>   |
| Connection cross-section of the access with screws, with flexible conductor  | 1 / 25 mm <sup>2</sup>   |
| Downstream cage clamp delivery status                                        | opened                   |
| Upstream cage clamp delivery status                                          | opened                   |
| <b>Equipment</b>                                                             |                          |
| Can be accessorized                                                          | Yes                      |
| <b>Standards</b>                                                             |                          |
| Standard text                                                                | EN 60898-1 ; IEC 60947-2 |
| <b>Safety</b>                                                                |                          |
| REACH conform                                                                | No                       |
| RoHS conform                                                                 | Yes                      |
| Halogen free                                                                 | No                       |
| <b>Use conditions</b>                                                        |                          |
| Operating temperature                                                        | -25...70 °C              |
| Degree of pollution according to IEC 60664 / IEC 60947-2                     | 2                        |
| Altitude                                                                     | 2000 m                   |
| Storage/transport temperature                                                | -25...80 °C              |
| <b>temperatur</b>                                                            |                          |
| Temperature of calibration                                                   | 50 °C                    |